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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,986	12/26/2001	Ikuto Ooyama	02410266AA	7794

7590

12/11/2002

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EXAMINER

VALENCIA, DANIEL E

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 12/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,986

Applicant(s)

OOYAMA ET AL.

Examiner

Daniel E Valencia

Art Unit

2874

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 and 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Inventorship

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-7, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Yokota Japanese Patent No. JP 62235909 A. Refer to the appropriate drawings or parts of the English abstract. Yokota discloses an adjusting structure for an optical collimator part with all of the limitations of the abovementioned claims. Regarding claims 1 and 5, Yokota discloses an optical fiber collimator (abstract and drawings) comprising: a lens (3); and an optical fiber chip (2) arranged at a distance from said

lens, said optical fiber chip holding an end portion of an optical fiber (1) and having an end surface treated to be inclined (drawing 4), wherein an optical axis of said optical fiber is eccentric with respect to a center of said lens to thereby set a quantity of eccentricity (drawings 2 and 3) of said optical fiber so that the center of said lens substantially coincides with a center of a light beam incident on said lens from said optical fiber. Yokota's disclosure further shows a cylindrical member (6) in which said lens and said optical fiber chip are incorporated in said cylindrical member so that the center of said lens coincides with the center of said optical fiber chip in a condition that said optical is inserted and held in an optical fiber insertion hole formed in an eccentric position of said optical fiber chip (drawing 2 and 3), as explained in claims 3, 6, 7, and 10. With reference to claim 4, Yokota's disclosure shows that the cylindrical member has a lens holding hole and an optical fiber chip holding hole formed so that the axes of said holding holes are shifted from each other, said lens and said optical fiber chip being inserted and fixed in said holding holes respectively to thereby be incorporated in said cylindrical member so that said optical fiber chip is made eccentric with respect to the center of said lens in a condition that said optical fiber is inserted and held in an optical fiber insertion hole formed in a center of said optical fiber chip (drawing 3 and abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 8, 9, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokota in view of Takahashi U.S. Patent No. 5,682,452. Refer to the appropriate figures or parts of the specification. Yokota as applied above, discloses an optical fiber collimator with a majority of the limitations of the claimed invention. Yokota however; does not show the use of a gradient index rod lens.

On the other hand, Takahashi discloses an optical fiber ferrule and optical coupler that teaches the limitations that the Yokota reference lacks. Regarding claims 2, 8, 9, 11, and 12, Takahashi teaches (fig 6) a distributive refractive index rod lens (26 or 26') with an inclined surface confronted against the end of the fiber (18 or 18'). Although Takahashi does not explicitly state that the distributive refractive index rod lens is a gradient lens, the lens in Takahashi would have been an equivalent collimating lens, and using a gradient rod index lens is an obvious modification. Further, GRIN lenses are well known. Takahashi teaches that it is advantageous to confront the fiber with an inclined surface of the lens, because it minimizes optical losses (col. 1, lines 25-35). In addition, Yokota and Takahashi both teach devices with most or all of the claimed limitations for coupling light from fibers to collimating devices having some eccentricity. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a gradient index rod lens with an inclined surface confronted against the fiber, rather than a spherical collimating lens, in the device disclosed in Yokota.

Conclusion

The prior art documents submitted by the applicant in the Information Disclosure Statement filed on May 16, 2002 and September 24, 2002, have all been considered and made of record (note attached copy of form PTO-1449).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Carter U.S. Patent No. 4,636,030 discloses an optical alignment apparatus utilizing prismatic elements that teaches fiber having a high degree of eccentricity.

Kyoya U.S. Patent No. 5,841,923 discloses a light-emitting module that teaches optical fiber with an angled facet being eccentric with respect to the optical axis of a lens.

Takahashi U.S. Patent No. 5,588,081 discloses a light-coupling device to couple a light source to an optical fiber that teaches the use of GRIN lenses for collimating light from a fiber in a cylindrical member.

Nakaya U.S. Patent No. 6,409,398 discloses an optical module and manufacturing method of optical module that teaches a lens for collimating light from a fiber that is located at an eccentric position.

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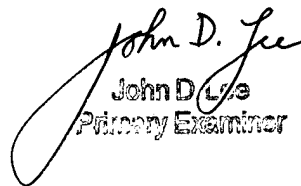
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel E Valencia whose telephone number is (703)-305-4399. The examiner can normally be reached on Monday-Friday 9:30-6:00.

The fax phone numbers for the organization where this application or proceeding is assigned are (703)-308-7724 for regular communications and (703)-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.

DV

Dan Valencia
December 6, 2002


John D. Lee
Primary Examiner